REMARKS

Reconsideration of the above-identified application, as amended, is respectfully requested.

In the Official Action dated April 20, 2005, the Examiner rejected Claims 1, 3-9 and 11-16 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,496,510 to Tsukakoshi et al. (Tsukakoshi) in view of U.S. Patent No. 6,643,269 to Fan et al. (Fan), and in further view of U.S. Patent No. 6,876,625 to McAllister et al. (McAllister).

Applicants respectfully disagree.

As a preliminary matter, Claim 1 is being canceled and incorporated in amended Claim 15, now cast in independent form; likewise, Claim 9 is being canceled and incorporated in amended Claim 16, now cast in independent form. Dependent Claims 3-8 and 11-14 are being amended commensurate with the cancellation of Claims 1 and 9 respectfully and to change their dependencies to new claims 15 and 16.

According to the present invention as now set forth in amended Claims 15 and 16, existing packet router forwarding table maintained by a NP device that routes the packets will not have to be restarted in synchrony with re-booting or re-starting a failed routing protocol application in the CP processor. Thus, the invention utilizing a data structure provided in each NP device's forwarding table that is updated to reflect current network protocol application version numbers affords a seamless transition by maintaining the existing forwarding table without disrupting the packet forwarding process performed by the NP device and without disrupting network connectivity by having to reconstruct a new forwarding table in response to a failed routing protocol application.

Respectfully, Tsukakoshi, whether taken alone or in combination with Fan and McAllister, does not teach or suggest the subject matter of amended independent Claims 15 and 16. While the Examiner appears to combine both a generic NP/routing table updating concept of Tsukakoshi with use of incrementing a "session" number in a routing switch (as taught in Fan) and a method of database synchronization allegedly "without disrupting packet forwarding process" as taught in McAllister, respectfully, this combination of references do not provide a "teaching" of the present invention as now claimed in amended Claims 15 and 16.

Specifically, the combination of Tsukakoshi, Fan and McAllister do not teach updating of the forwarding table entries without disrupting network connectivity by having to reconstruct a new forwarding table in response to a failed routing protocol application that has been re-started in a control processor device.

That is, in a first instance, neither Tsukakoshi nor Fan teach maintaining an additional forwarding table data structure indicating identification of a routing protocol application including a version of a particular routing protocol application instance. While Fan teaches the use of a "session" number representative of a current network topology, the handling of a "session" number in a network node as taught in Fan is not suggestive of use of a version number in the present invention. Firstly, Fan teaches use of a "session" number as part of a topology discovering process –particularly, in the context of generation neighbor status messaging. There is no teaching or suggestion that the session number is stored in a data structure in a forwarding table entry as set forth in the Claims 15 and 16 of the invention. In the operation described in Fan, a network node that detects a status message change from its neighbor will increment its stored session number and then broadcast its updated session number to its neighbor nodes; Second, Fan provides that a CPU that stores the session number in

memory (See Fan, col. 10, lines 45-49) along with all received neighbor status messages numbered with the current session number only in the context of ongoing topology discovery; Third, Fan does not teach updating of the forwarding table. In fact, Fan explicitly states that the mechanism used for topology reconfiguration preferably "eliminates" changes to provisioning tables and routing tables internal to a device (See Fan, col. 12, lines 14-22); Fourth, Fan does not teach updating forwarding table entries in the existing forwarding table efficiently without disrupting packet forwarding process performed by the NP device and without disrupting network connectivity by having to reconstruct a new forwarding table. In fact, Fan teaches away from the present invention by relying on each node of the network to essentially recreate the network topology "from scratch"- which is antithetical to the present invention. For example, Fan suggests at col. 15, line 64- col. 16, line 2 that after buffering all received neighbor status messages of the current session it "does not yet discard the last complete topology constructed from a previous session" and further, starting with itself, "each device constructs an internal software representation of the topology". Thus, this teaches away from the present invention as it is more in line with prior art teachings of purging the packet forwarding tables and reconstructing the information synchronously (see background of present specification on page 5, lines 7-15) and is antithetical to the claimed invention (Claims 15 and 16) that sets forth updating of forwarding table entries without disrupting network connectivity by having to reconstruct a new forwarding table.

To make up the deficiency, the Examiner has cited McAllister as providing a teaching of updating the packet forwarding table allegedly without disrupting the packet forwarding process. However, respectfully, the Examiner's reliance on McAllister is misplaced: McAllister system is directed to minimizing impact to database synchronization only for network

nodes having a specific built-in redundancy architecture including a first "active" router and a second "inactive" router (See Figure 4 of McAllister) whereby when a failure affects the active routing entity, network connections are automatically diverted to the inactive routing entity which becomes the "newly active" routing device for that network node. Such an architecture is particular to the context of redundancy recovery and McAlister is directed to a "hot redundancy recovery" technique that minimizes impact of the failed node and the neighboring adjacent nodes. According to McAllister, the technique provides that upon failure of a node, only then will the "newly active" routing device communicate network state information with its neighboring nodes "without withdrawal of the intermittent advertisement of local state information" as it pertains to the failed network node and the to each of the adjacent neighbor nodes (see McAllister, for instance, at col. 5, lines 1-10). Thus, it appears that the Examiner's reliance upon McAllister is misplaced as McAllister only teaches continuing communications of local network topology information for such "hot" redundant networks and suggests a new technique of how synchronization of databases takes place in such networks. It does not specifically teach or suggest the updating of forwarding table entries without disrupting network connectivity by having to reconstruct a new forwarding table.

In sum, the present invention as set forth in amended Claims 15 and 16 provides a simple mechanism that enables the seamless transition when updating entries of packet forwarding tables by CP applications when a CP device or routing protocol application executing therein has failed. Moreover, implementation of the present invention obviates the need to regenerate a new NP device forwarding table in synchrony with the re-starting of a CP application, by enabling update of forwarding table entries in an existing forwarding table maintained by the NP device and subsequent aging out of protocol application packet forwarding

entries as is performed in the present invention. That is, the present invention efficient forwarding table updates without disrupting packet forwarding process and without disrupting network connectivity.

Applicants respectfully submit that the present invention' s use of a data structure comprising a "signature" (incarnation and protocol application type) and use of "versioning" in updating routing table entries when a CP application fails, is neither taught nor suggested by the applied combination of references. As such, the applicants request the Examiner to withdraw the rejection of Claims 1, 3-9, and 11-14 under 35 U.S.C. §103(a), and to allow new claims 15 and 16.

This application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might expedite prosecution of this case, it is respectfully requested that he call applicant's attorney at (516) 742-4343.

Respectfully submitted,

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